TRAITÉ THÉORIQUE ET PRATIQUE DE LA…

TRAITÉ

THÉORIQUE ET PRATIQUE

DE

LA MÉTALLURGIE DU FER

A L'USAGE

DES SAVANTS, DES INGÉNIEURS, DES FABRICANTS

ET DES ÉLÈVES DES ÉCOLES SPÉCIALES,

COMPRENANT

LES FABRICATIONS DE LA FONTE, DU FER, DE L'ACIER ET DU FER BLANC,

ET PRÉCÉDÉ D'UNE INTRODUCTION

CONCERNANT LES PRINCIPES SUR LESQUELS REPOSE CETTE INDUSTRIE;

PAR

C. E. JULLIEN,

INGÉNIEUR,

ancien élève de l'école centrale des arts et manufactures, ex-ingénieur de l'atelier de construction du Creusot,
du chemin de fer de Paris à Lyon, des forges de Montataire et des aciéries
H. Petin, Gaudet et Comp. de Rive-de-Gier.

ATLAS.

PARIS ET LIÉGE,

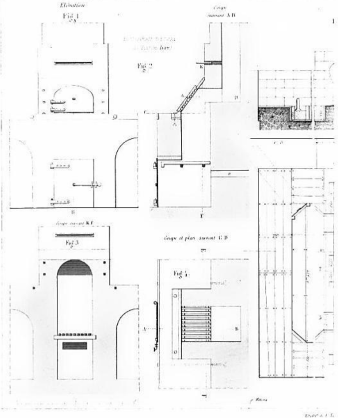
E. NOBLET, LIBRAIRE-ÉDITEUR.

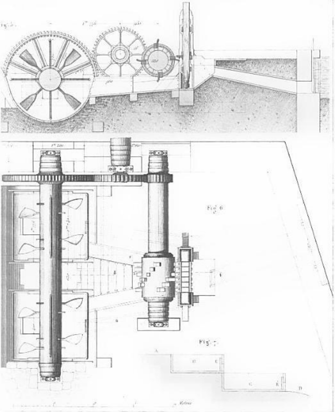
1861

PARIS. — IMPRIMERIE DE MADAME VEUVE BOUCHARD-HUZARD,
RUE DE L'ÉPERON, 5.

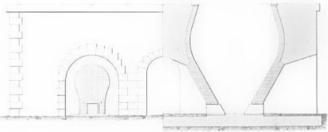
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FIN DE LA TABLE DES PLANCHES.


Élévation
Fig. 1
Coupe suivant A B
Fig. 2
Coupe suivant K F
Fig. 3
Coupe et plan suivant C D
Fig. 4

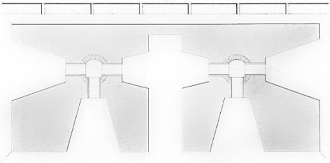

Fig. 6
Fig. 7
Mètres

Élévation — Fig. 8. — Coupe longitudinale

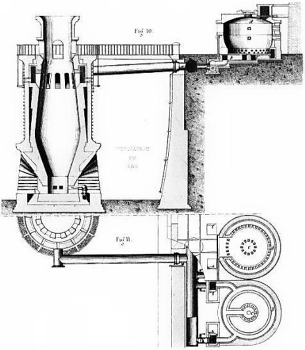


PLAN

Fig. 9



Echelle de 15 millimes pour mètre



E. Adam

Fig. 12



Fig. 22



Fig. 13



Fig. 14

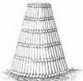


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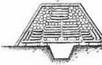


Fig. 24

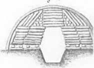


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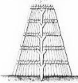


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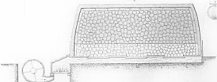


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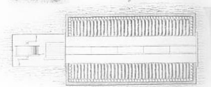
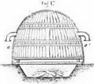
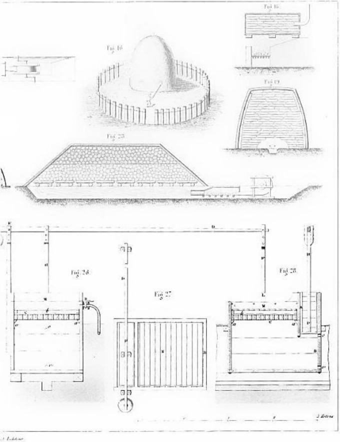
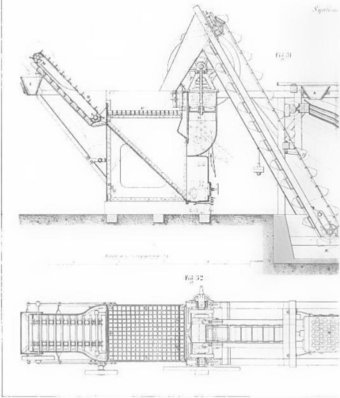


Fig. 17




Fig 16
Fig 18
Fig 19
Fig 23
Fig 26
Fig 27
Fig 28



Koehl. de F. N.

Bérard.

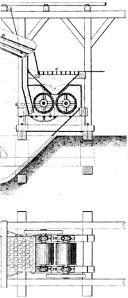


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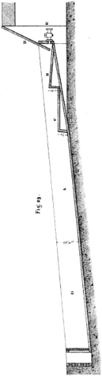


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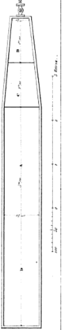


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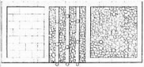


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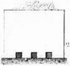


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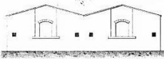


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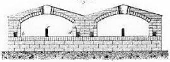


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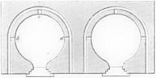
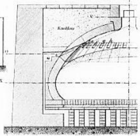


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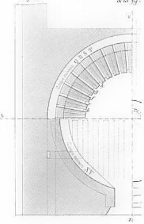
Coupe verticale suivant la



Plan et coupes horizontales à

de la fig.

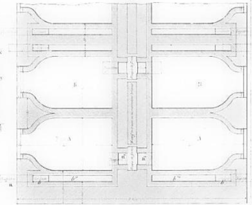
Fig. 38.



Pratt. de R.S.

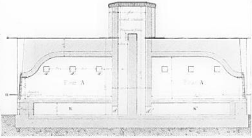


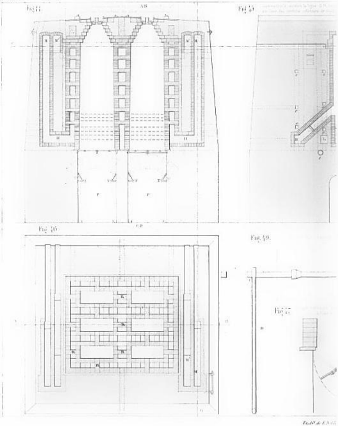
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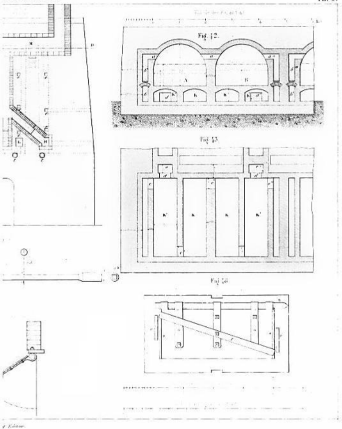


Grands fours accouplés à sole chauffée

Fig. 41






Fig. 42.
Fig. 43
Fig. 46

Systèm

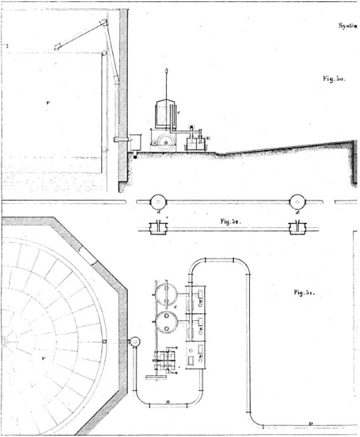


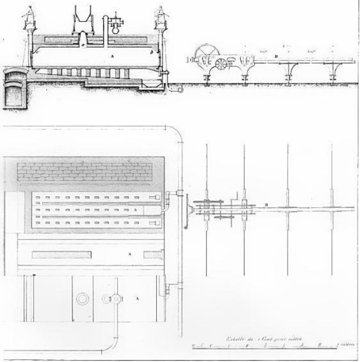
Fig. 50.

Fig. 52.

Fig. 51.

Établ.t de E.S

e Knab.



blot, Editeur.

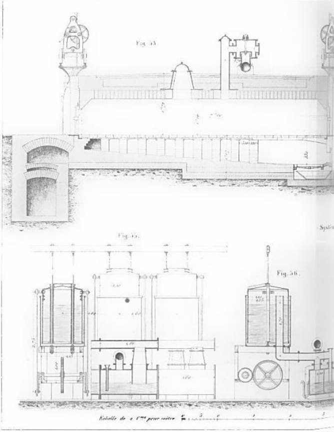
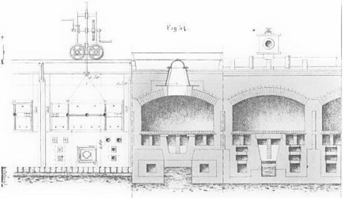

Fig. 55.
Fig. 56.
Echelle de 2 Cmes pour mètre

Fig. 54.



Knab.

Fig. 57.

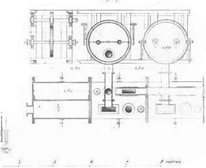
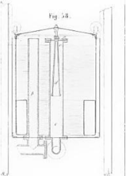
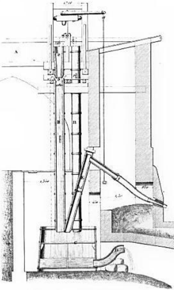


Fig. 58.



…let, Éditeur

Fig. 59.



Echelle : 0,025 pour mètre.

Fig. 60.

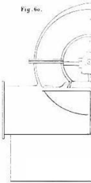


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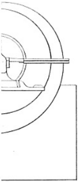


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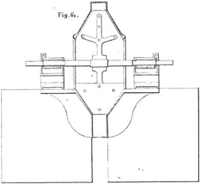
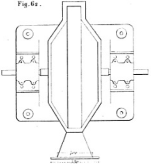
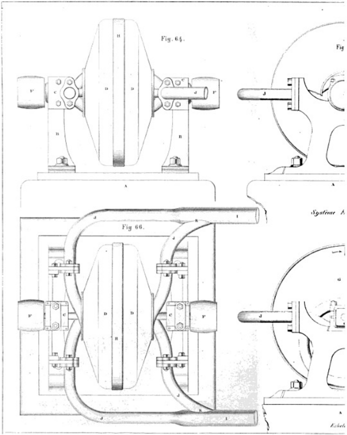
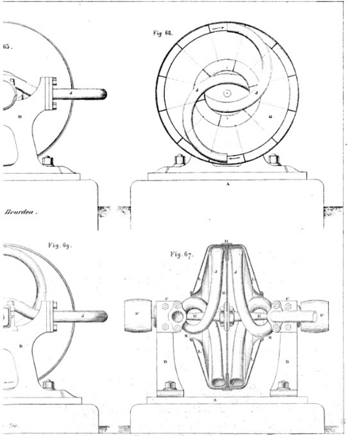


Fig. 62.





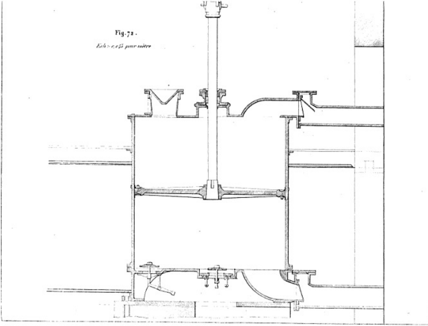

Fig. 64.
Fig 66.
Système



.let, Éditeur.

Fig. 72.

Ech.le = 0,05 pour mètre



Établ.t de E. Noblet, Éditeur.

Fig. 70.

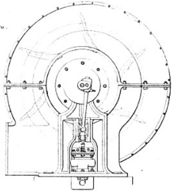
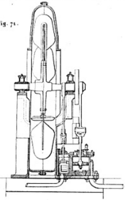
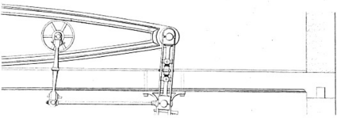


Fig. 71.



Echelle 1/20.



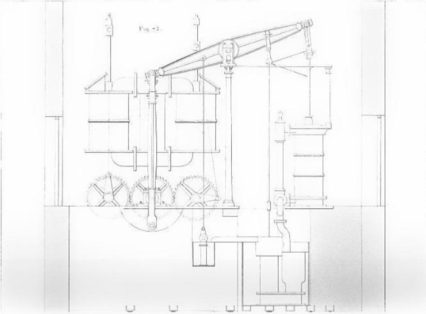


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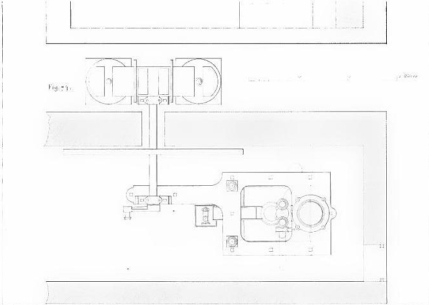
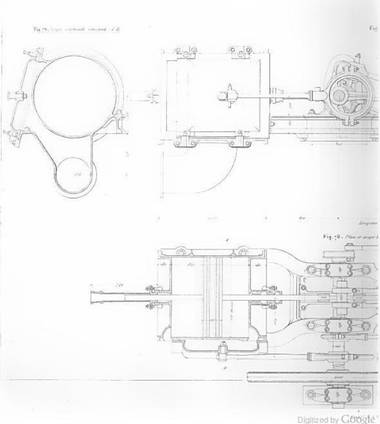
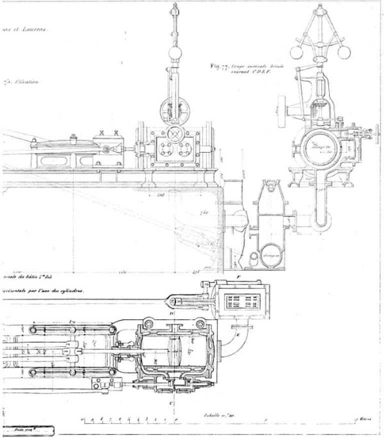


Fig. 7 c.

Système Thom





blet, Éditeur

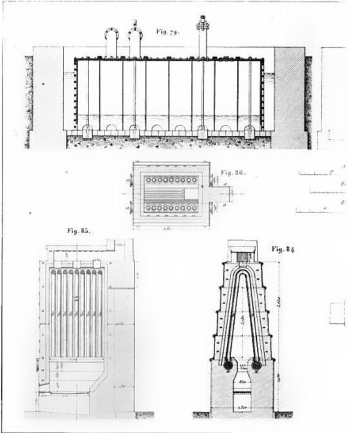

Fig. 79.
Fig. 86.
Fig. 85.
Fig. 84

Fig. 80.

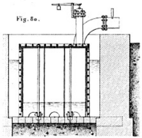
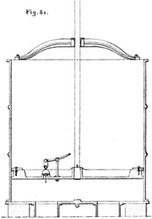


Fig. 81.



'ele: pour les fig. 79. 80.
1 2 3 4 Mètres

'le: pour les fig. 81. 82. 83.
0 1 2 Mètres

'le: pour les fig. 84. 85. 86.
1 2 3 4 5 Mètres

Fig. 83.

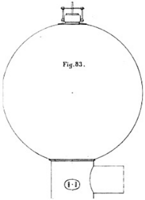
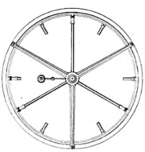
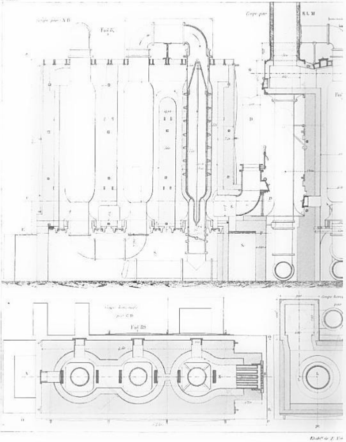
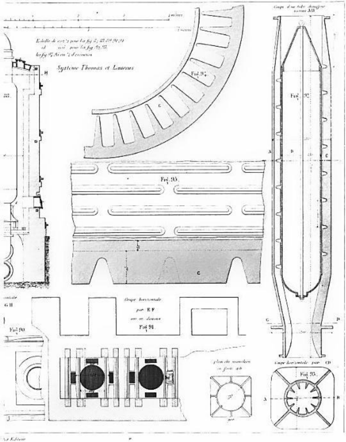


Fig. 82.



...blet, Éditeur.




Système Thomas et Laurens
Fig. 94
Fig. 95
Fig. 92
Coupe horizontale par EF
Fig. 91
Fig. 90
Coupe horizontale par CD
Fig. 93

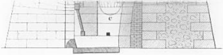
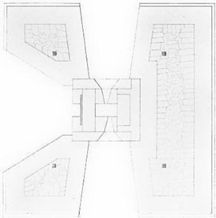


Fig. 97.



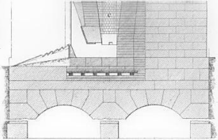


Fig. 99.

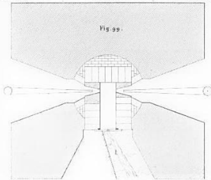


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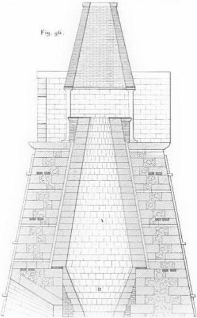
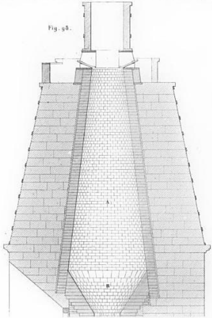
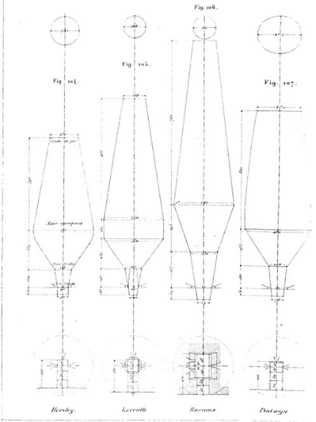
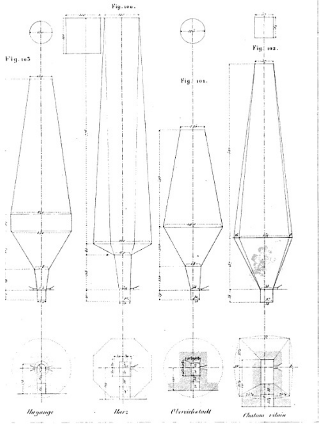


Fig. 95.




Fig. 104.
Fig. 105.
Fig. 106.
Fig. 107.
Hersley.
Lavoulte
Bacvaux
Pentwyn



..oblet, Éditeur

Fig. 108.

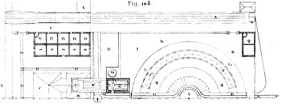




Fig. 109.

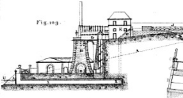


Fig. 114.



Fig. 115.

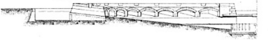


Fig. 116.





Fig. 113.



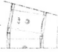


Fig. 118.



Fig. 117.



Echelle des fig. 108, 109 .... 0,0012 pour mètre.
.. .. .. 110, 111, 112, 115, 116, 119, 120. 0,005 .. ..
.. .. .. 113, 114, 117, 118 .... 0,01 .. ..

Fig. 117.

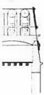


Fig. 118.

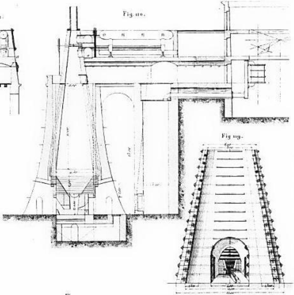


Fig. 119.

Fig. 121.

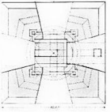
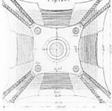


Fig. 120.



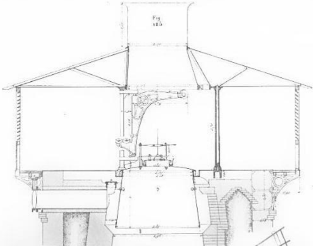


Fig. 125

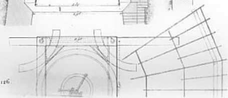


Fig. 126.

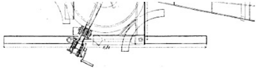
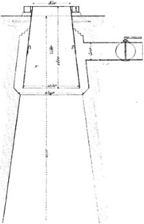


Fig. 121.



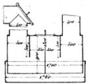


Fig. 122.

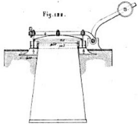


Fig. 124.

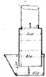
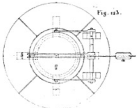
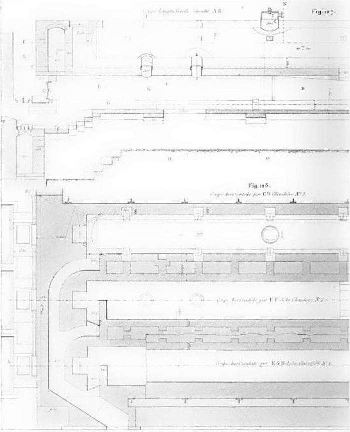


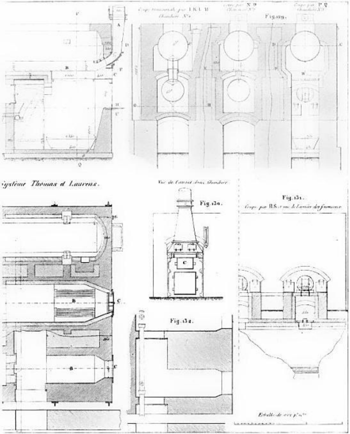
Fig. 123.

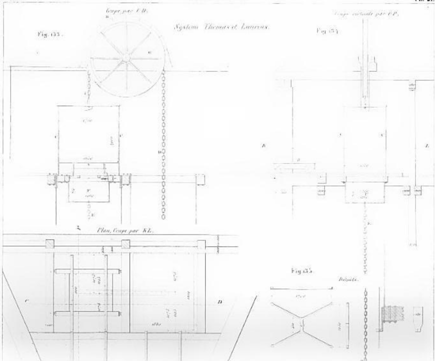


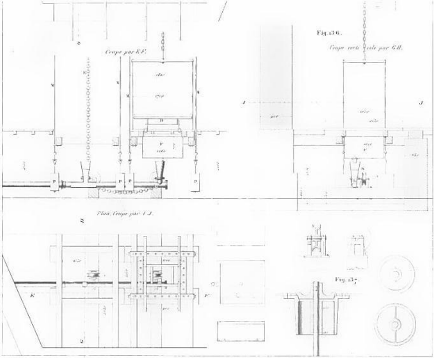
Echelle des fig. 121, 122, 123, 124 — 1/30.
" " fig. 125, 126 — 1/60.

Etabl.t de E. Noblet, Editeur.


Fig. 127.
Fig. 128.


Fig. 129.
Système Thomas et Laurens.
Fig. 130.
Fig. 131.
Fig. 132.

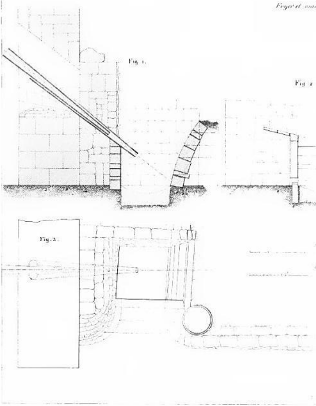

Coupe par CD.
Système Thomas et Laurens.
Fig. 133.
Coupe verticale par EF.
Fig. 134.
Plan, Coupe par KL.
Fig. 135.
Détails.



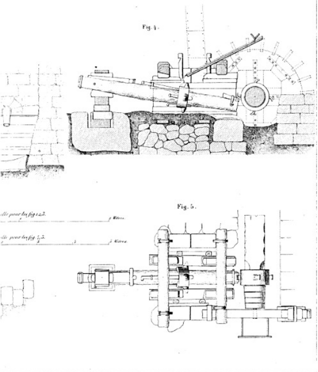
Etabl.t de F. Noblet, Editeur

TRANSFORMATION DIRE

Foyer et ...



ra catalans.



Éditeur.

Fig. 6.

Vue de face.

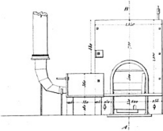


Fig. 7.

Vue de côté de la porte du

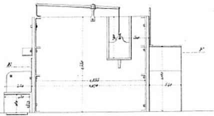


Fig. 8.

Coupe transversale suivant C D.



Fig. 9.

Coupe longitudinale suivant A B.



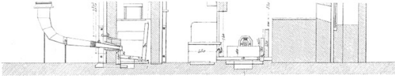


Fig. 11.

Vue de derrière.

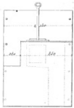
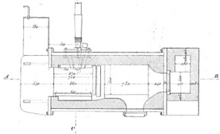


Fig. 10.

Plan en coupe suivant EF.



Établ.t de E. Veblat, Éditeur.

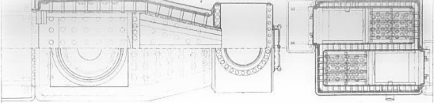
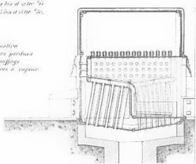


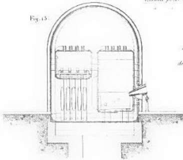
Fig. 13 bis.



Echelle pour les fig. 11, 11 bis et 12 ter $\frac{1}{15}$

" " " " 12, 13 bis et 13 ter $\frac{1}{30}$

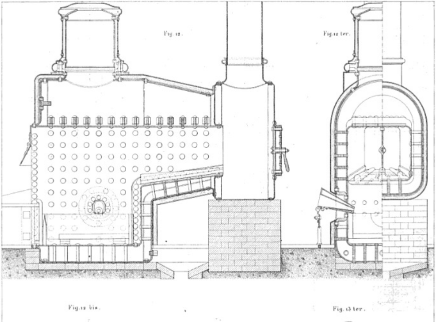
Fig. 13.

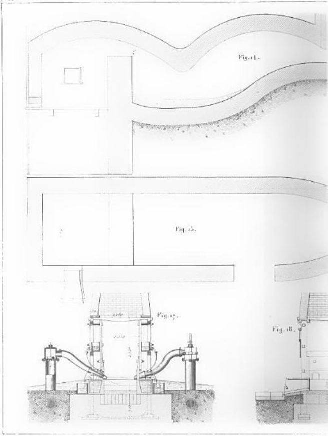


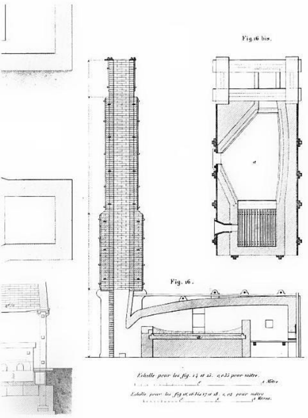
Utilisation
des chaleurs perdues
au chauffage
des chaudières à vapeur.

Etabl.t de E. Vebla, Editeur.

FEUX D'AFFINERIE.



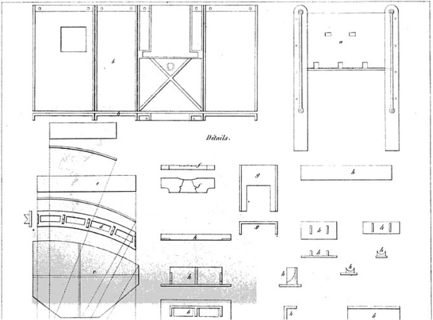

Fig. 14.
Fig. 15.
Fig. 17.
Fig. 18.

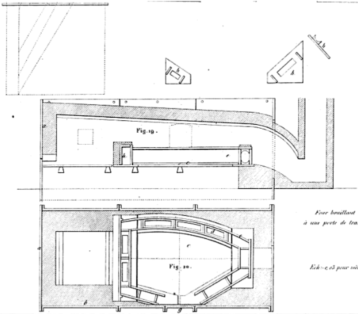


Echelle pour les fig. 14 et 15. 0,035 pour mètre.

Echelle pour les fig 16, 16 bis 17 et 18. 0,02 pour mètre

AFFINAGE DE LA FONTE AU FOUR A RÉVERBÈRE.

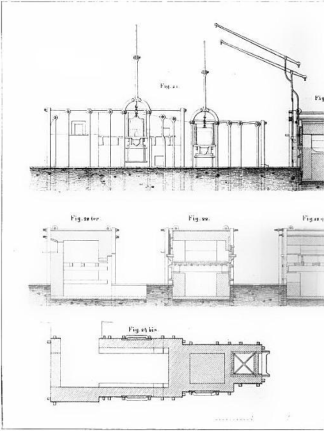


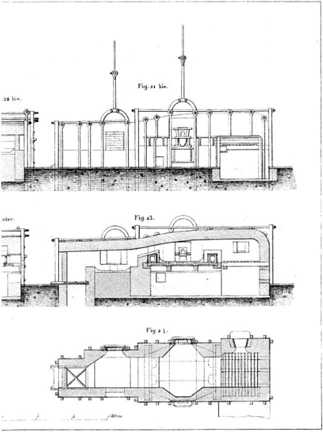


Four bouillant
à une porte de travail.

Ech: = 0,05 pour mètre.

Établ.t de E. Noblet, Éditeur.


Fig. 21.
Fig. 22 ter.
Fig. 22.
Fig. 24 bis.



ill, Editeur.

Fig. 25.

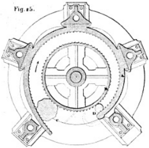


Fig. 26.

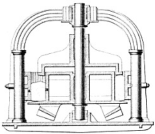


Fig. 27.

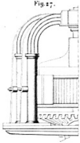
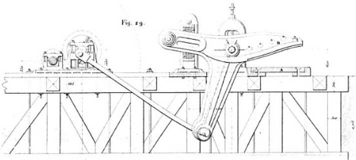
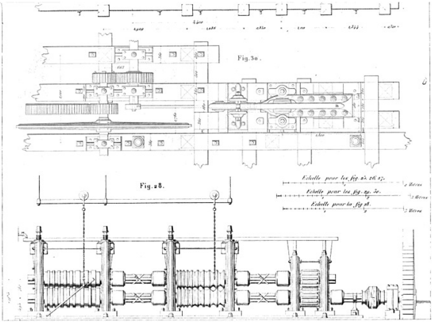


Fig. 29.





Etabl.t de E. Noblet, Editeur

Fig. 51.

Fig. 52.

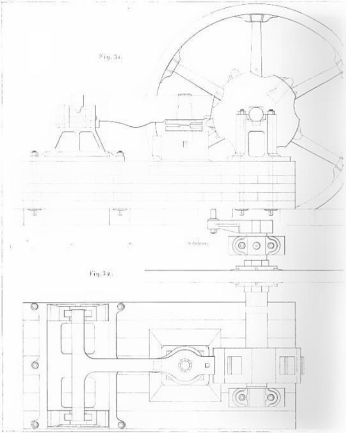




Fig. 33.

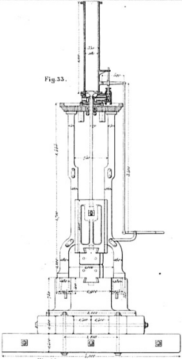


Fig. 34.

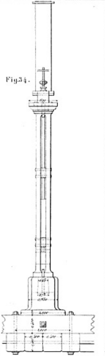


Fig. 35.

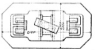


Fig. 36.

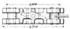


Fig. 37



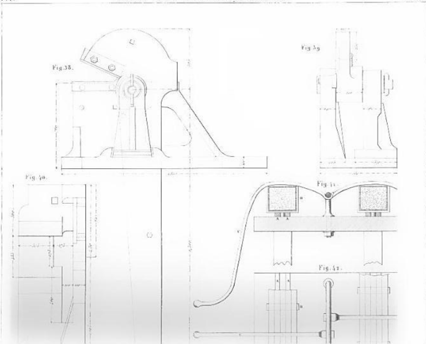

Fig. 38.
Fig. 39.
Fig. 40.
Fig. 41.
Fig. 42.



Fig. 43.

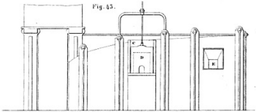
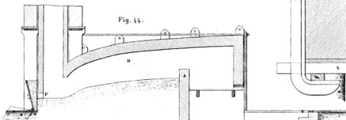


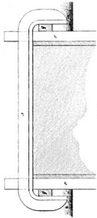
Fig. 44.



Echelle pour les fig. 38, 39, 40. 1 Mètre

Echelle pour les fig. 41, 42. 6 Décim.

Fig. 45.



Établ.t de E. Noblet, Éditeur

Fig 46

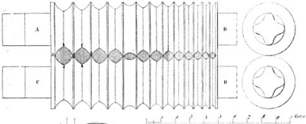


Fig 47

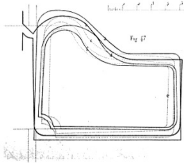


Fig 48.

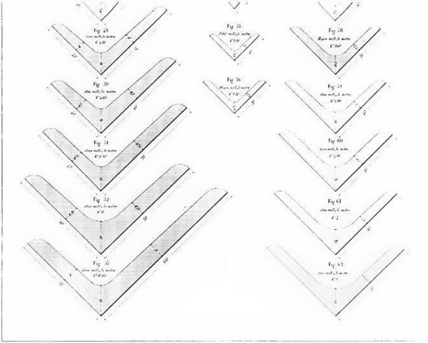


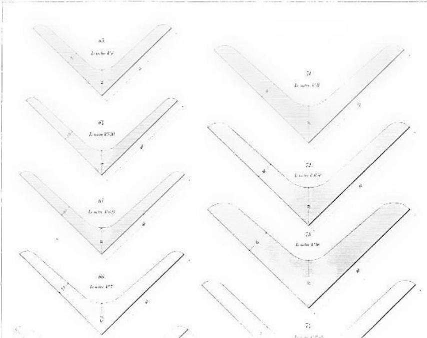
Fig 54.

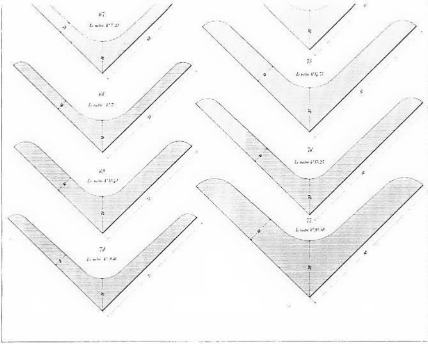


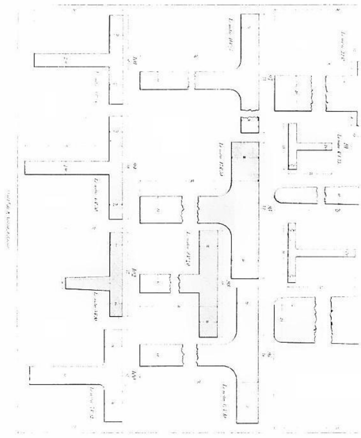
Fig 57



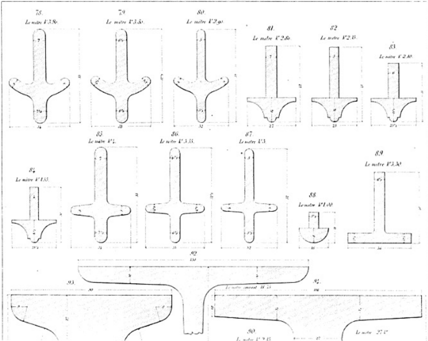

Fig. 49
Fig. 50
Fig. 51
Fig. 52
Fig. 53
Fig. 55
Fig. 56
Fig. 58
Fig. 59
Fig. 60
Fig. 61
Fig. 62

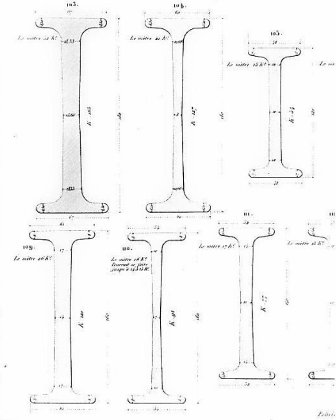



67
68
69
70
75
76
77



PROFILS DE FERS A VITRAGES ET EN T.




103.
Le mètre 32 K°
104.
Le mètre 21 K°
105.
Le mètre 13 K°
109.
Le mètre 26 K°
110.
Le mètre 18 K°
Pourrait se faire
jusqu'à 14 à 15 K°
111.
Le mètre 17 K°
Le mètre 13 K°

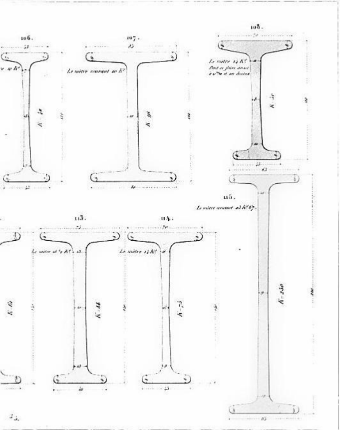
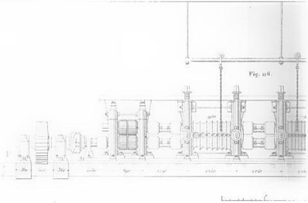
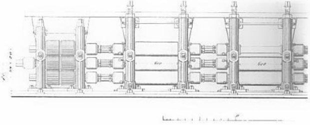
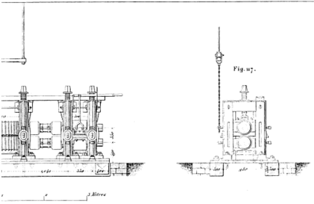

106.
107.
108.
Le mètre courant 20 K.
113.
114.
115.
Le mètre courant 23 K 67.
K=230

Fig. 116.

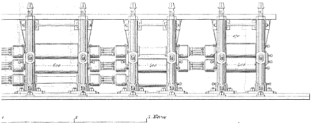


Fi



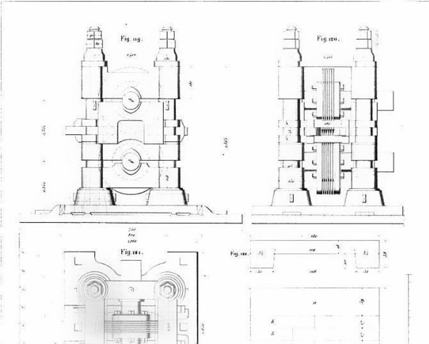


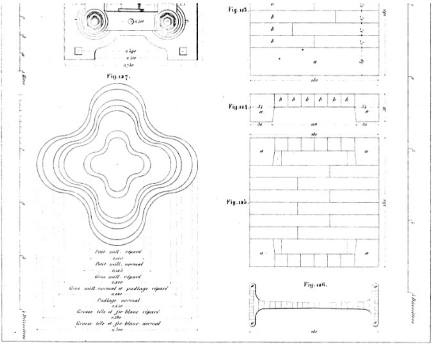
J. 118.



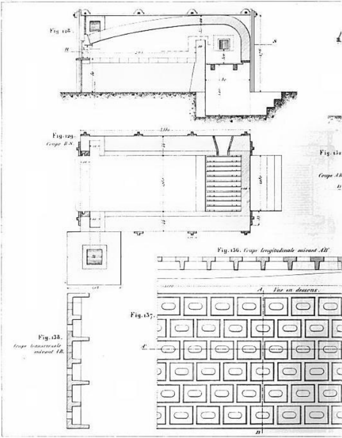
Noblet, Éditeur.

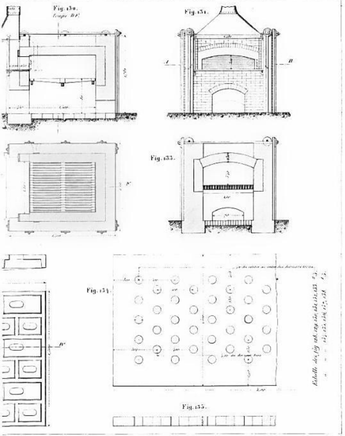
Fer TRAIN DE FENDERIE; TREFFLES; COUVERTURES. Pl. 35.

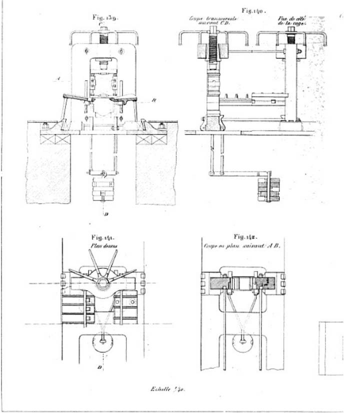


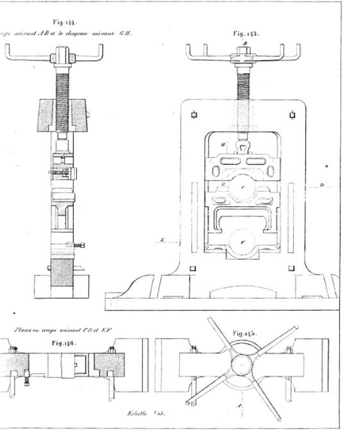


Etabl.t de E. Noblet, Editeur.


Fig. 128.
Fig. 129.
Coupe B.S.
Fig. 130. Coupe longitudinale suivant AB'
Vue en dessous.
Fig. 137.
Fig. 138.
Coupe transversale suivant AB.
Fig. 13


Fig. 130.
Coupe DF.
Fig. 131.
Fig. 133.
Fig. 134.
Fig. 135.


Fig. 139.
Fig. 140.
Coupe transversale suivant C D.
Vue de côté de la cage.
Fig. 141.
Plan dessus
Fig. 142.
Coupe en plan suivant A B.
Echelle 1/40.



...blot, Editeur.

Fig. 151.

Fig. 152.



Fig. 153.



Fig. 154.



Fig. 155.



Fig. 156.

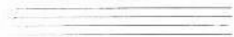


Fig. 157.

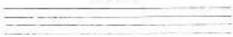


Fig. 158.



Fig. 159.



Fig. 160.

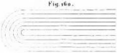


Fig. 149.

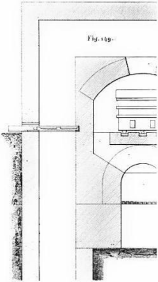


Fig. 147.

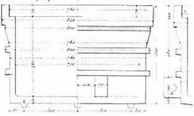
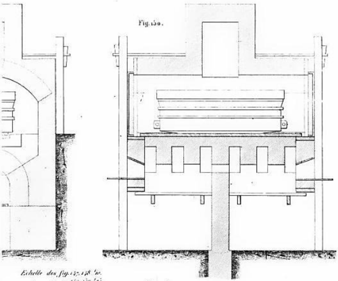


Fig. 150.



Echelle des fig. 147, 148 1/10.
" " " fig. 150 1/25.

Fig. 148.

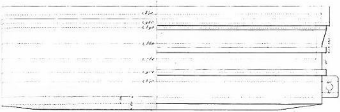


Fig. 161.

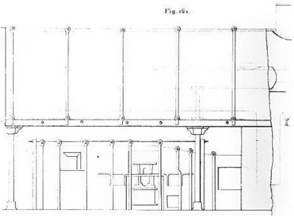
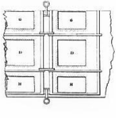


Fig. 164.

Nouvelle disposition des canaux.



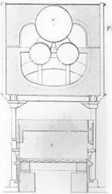
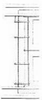


Fig. 162.



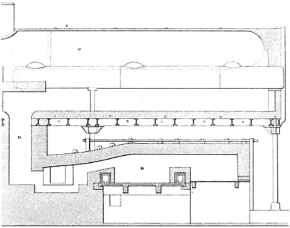
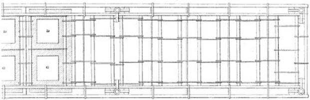


Fig. 163.



-bla, Éditeur.

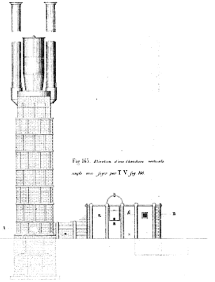
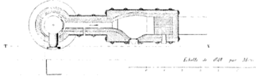


Fig. 165. Elévation d'une Chaudière verticale couplée avec foyer par T V. fig. 166.

Fig. 166. Coupe horizontale de la Chaudière et du Four, par A et B. fig. 165.



Échelle de 0,01 par Mètre

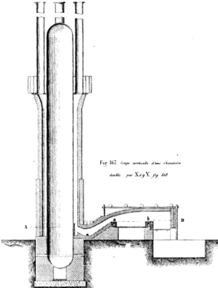
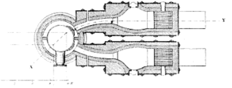
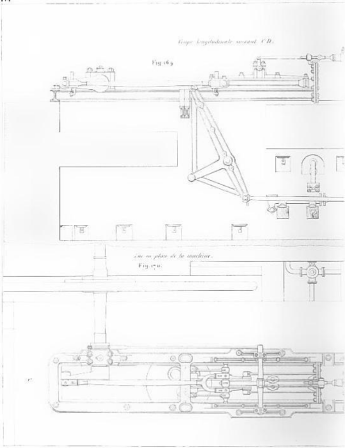


Fig 167. Coupe verticale d'une Chaudière double par X x y Y, fig 168.

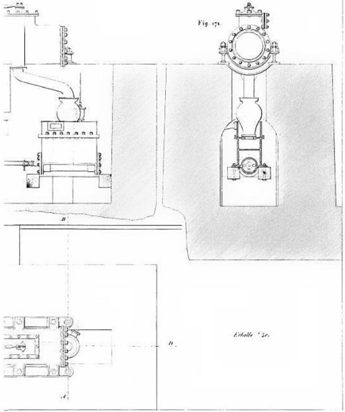
Fig. 168. Coupe horizontale de la Chaudière et des deux Fours de puddlage par A a b B, fig 167.




Coupe longitudinale suivant CD.
Fig. 169
Vue en plan de la machine.
Fig. 170

Coupe verticale et transversale suivant AB.

Fig. 171.



Échelle 1/40.

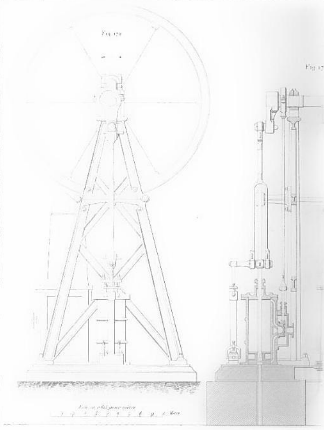
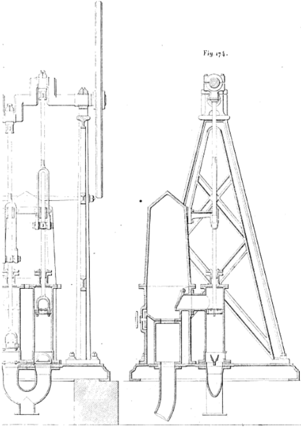

Fig. 172
Fig. 17
Échelle de 0,05 pour mètre
1 Mètre

Fig. 174.



Petit cheval
Système

Fig. 175. *Élévation A B.*

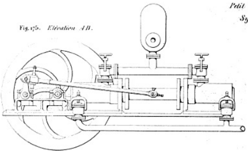


Fig. 176. *Coupe E F.*

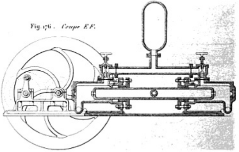


Fig. 179. *Coupe K J H G.*



Établ' de F. L.

double effet.
Bourdeu.

Fig. 177. *Coupe CD.*

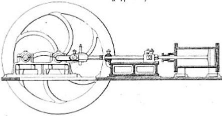


Fig. 178. *Plan*

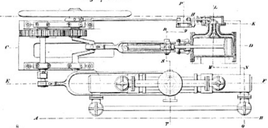


Fig. 180. *Coupe LMNO.*

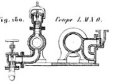
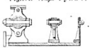


Fig. 181. *Coupe PQRST.*



llet, Éditeur.

Petit cheval e
Système F

Fig. 182.

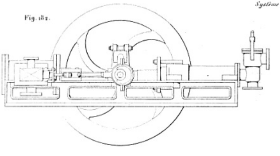
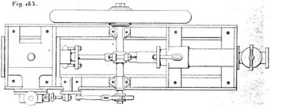


Fig. 183.



Echelle des fig. 182, 183, 184, 185.

Echelle de la fig. 186.

Etabl.t de E.

simple effet.
Bourdon.

Fig. 184.

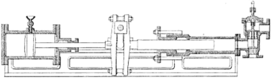
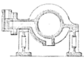


Fig. 185.



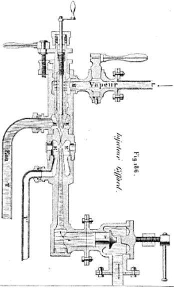
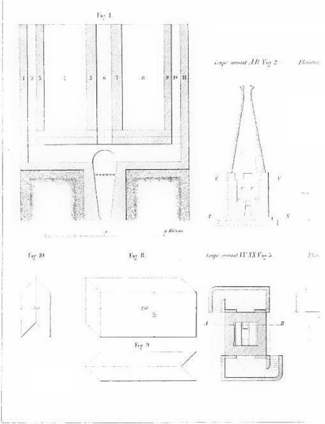


Fig. 186.
Injecteur Giffard.

16 17 18 19 20 *Mètres.*

7 8 *Décim.*


Fig. 1.
1 2 3 4 5 6 7 8 9 10 11
Coupe suivant AB Fig. 2.
Elévation
Fig. 10.
Fig. 8.
Coupe suivant XX Fig. 5.
Fig. 9.
A
B
X
X
2 Mètres

Coupe en long des plateaux. Fig. 7



Fig. 5. Coupe suivant M.M. Fig. 4. Coupe suivant A.B. Fig. 11.

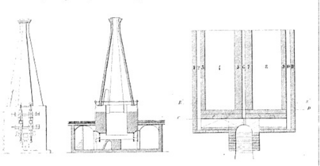
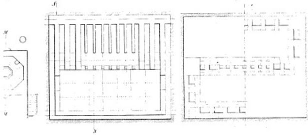
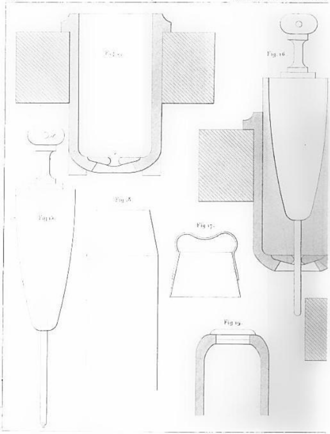
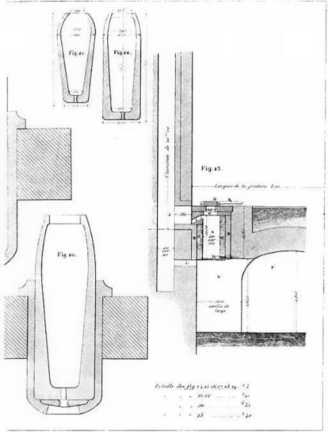


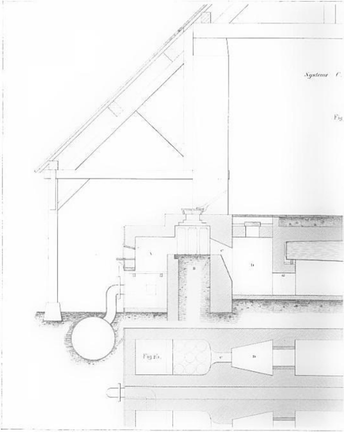
Fig. 6. Coupe suivant C.D. Fig. 13. Coupe suivant E.F. Fig. 12.

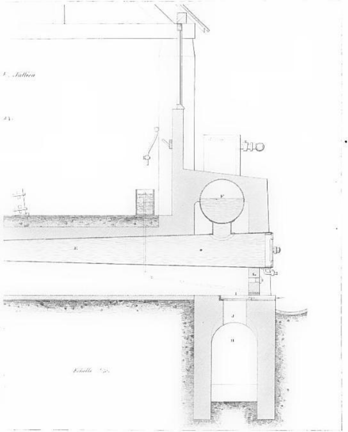



Fig. 16
Fig. 18
Fig. 17
Fig. 19


Fig. 21.
Fig. 22.
Fig. 20.
Fig. 23.
Cheminée de 10m 00
Largeur de la fonderie 8,00
Echelle des fig. 14, 15, 16, 17, 18, 19 ... 1/5
" " " 21, 22 ... 1/10
" " " 20 ... 6/25
" " " 23 ... 1/40

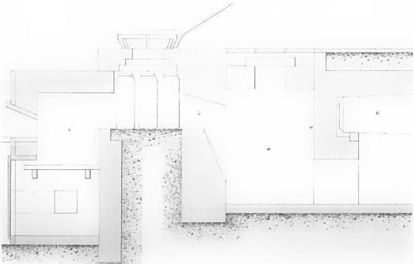
FONDERIE D'ACIER A LA




F
E
L
I
J
H
Échelle

Système Bouché.

Fig. 26.



Système Ballejin.

Fig. 28.

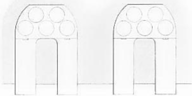
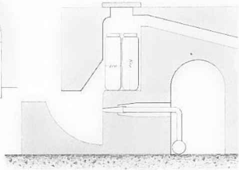


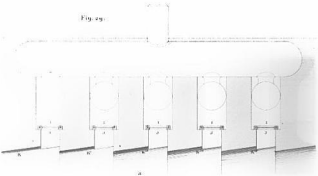
Fig. 27.



Échelle — 1/20.

Etabl.t de E. Noblet, Éditeur

Fig. 29.



Echelle

Fig. 32.



Fig. 31.

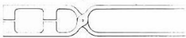


Fig. 30.

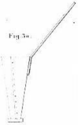


Fig. 33.

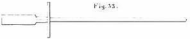


Fig. 34.

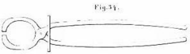


Fig. 42.

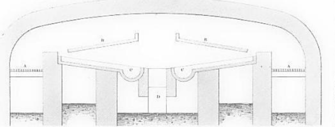


Fig. 38.

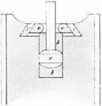


Fig. 41.

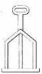


Fig. 40.

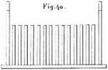


Fig. 39.

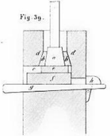


Fig. 35.



Fig. 36.



Fig. 37.



Noblet, Éditeur.

MARTINETS A CAMES.

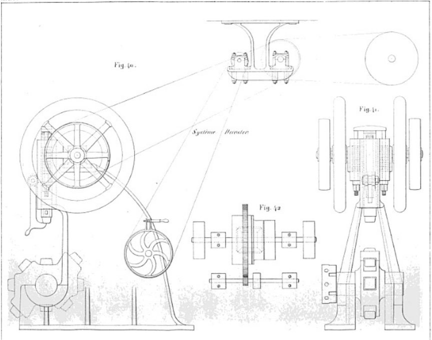


Fig. 43.

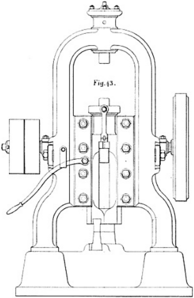


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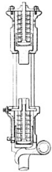
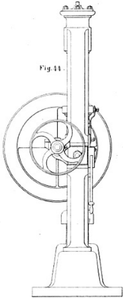


Fig. 44.



Système Schmerber

Établt de E. Noblet, Éditeur.

Fig. 46.

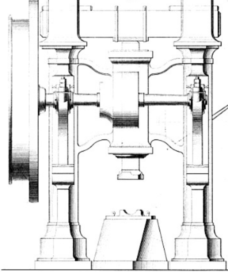
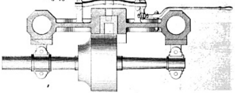


Fig. 47



Fig. 49.



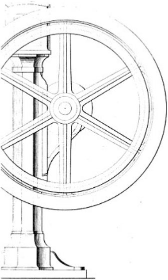


Fig. 48.

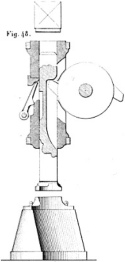
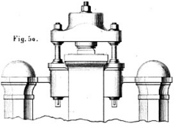


Fig. 50.



Système Farcot.

Echelle 1/20

1 2 3 4 5 6 7 8 9 1 Mètre

Noblet, Editeur